

The Claims

We claim:

1. A lighter comprising:
5 a housing having a supply of fuel;
an actuating member movably associated with the housing to selectively perform at least one step in igniting the fuel; and
a latch member slidably associated with the housing to selectively change the actuating member from a high-force mode to a low-force mode;
10 wherein the actuating member is operable to perform the at least one step in igniting the fuel when in the high-force mode and the low-force mode.
2. The lighter of claim 1, wherein the latch member is slidable along a surface
15 of the housing.
3. The lighter of claim 1, wherein the actuating member is movable in a first direction to perform the at least one step in igniting the fuel and the latch member is slidable in a second direction to selectively change the actuating member from the high-force mode to the low-force mode.
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4. The lighter of claim 3, wherein the first direction is different than the second direction.
5. The lighter of claim 3, wherein the first direction is substantially opposite the
25 second direction.
6. The lighter of claim 3, wherein the first direction is substantially the same as the second direction.
- 30 7. The lighter of claim 1, wherein the actuating member is movable along a first path and the latch member is slidable along a second path.
8. The lighter of claim 7, wherein the first path is substantially parallel to the second path.

9. The lighter of claim 7, wherein the first path is transverse to the second path.
10. The lighter of claim 7, wherein at least one of the first and second paths is substantially linear.
- 5 11. The lighter of claim 7, wherein at least one of the first and second paths is angled or multi-axial.
- 10 12. The lighter of claim 7, wherein at least one of the first and second paths is curved or arcuate.
- 15 13. The lighter of claim 1, further comprising a cam follower, wherein the latch member includes a cam surface that interacts with the cam follower to change the actuating member from the high-force mode to the low-force mode.
- 20 14. The lighter of claim 13, wherein the cam follower pivots.
- 25 15. The lighter of claim 14, wherein the cam follower is pivotally mounted to the housing.
- 30 16. The lighter of claim 13, further comprising a plunger member movable between a first position where the actuator member is in the high-force mode and a second position where the actuator member is in the low-force mode, wherein the cam follower moves the plunger member from the first position to the second position.
17. The lighter of claim 16, wherein the plunger member is normally located in the first position and the latch member is normally located in an initial position, and sliding the latch member a predetermined distance out of the initial position causes the cam follower to move the plunger member to the second position.
18. The lighter of claim 1, wherein moving the actuating member a predetermined distance before sliding the latch member increases the amount of force necessary to slide the latch member.

19. The lighter of claim 18, further comprising a first engagement surface associated with the latch member and a second engagement surface associated with the actuating member, wherein the first engagement surface engages the second engagement surface upon movement of the actuating member a predetermined distance before sliding the latch member.

20. The lighter of claim 19, further comprising a plunger member, wherein the first engagement surface is formed on the plunger member and the second engagement surface is formed on the actuating member, wherein the first and second engagement surfaces are substantially inclined.

21. The lighter of claim 1, wherein moving the actuating member a predetermined distance before sliding the latch member substantially prevents sliding of the latch member a sufficient distance to change the actuating member from the high-force mode to the low-force mode.

22. The lighter of claim 21, further comprising a first engagement surface associated with the latch member and a second engagement surface associated with the actuating member, wherein the first engagement surface engages the second engagement surface upon movement of the actuating member a predetermined distance before sliding the latch member.

23. The lighter of claim 22, further comprising a plunger member, wherein the first engagement surface is formed on the plunger member and the second engagement surface is formed on the actuating member, wherein the first and second engagement surfaces are substantially horizontal.

24. The lighter of claim 22, further comprising a plunger member, wherein the first engagement surface is formed on the plunger member and the second engagement surface is formed on the actuating member, wherein the first and second engagement surfaces are substantially vertical.

25. The lighter of claim 1, wherein when the actuating member is in the high-force mode, a first actuating force is required to move the actuating member to perform the

at least one step in igniting the fuel, and when the actuating member is in the low-force mode, a second actuating force is required to move the actuating member to perform the at least one step in igniting the fuel, wherein the first actuating force is greater than the second actuating force.

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26. The lighter of claim 25, wherein the first actuating force is less than about 10 kg.

10 27. The lighter of claim 1, wherein the at least one step in igniting the fuel is releasing the fuel or creating a spark.

28. The lighter of claim 1, wherein the actuating member selectively releases the fuel and creates a spark.

15 29. The lighter of claim 1, wherein the lighter is a utility lighter having a wand extending from the housing.

20 30. The lighter of claim 29, wherein the wand is pivotable with respect to the housing.

31. The lighter of claim 1, wherein the actuating member is configured to be operable by a user's index finger and the latch member is configured to be operable by a user's thumb.

25 32. A lighter comprising:
a housing having a supply of fuel;
an actuating member associated with the housing and movable along a first path in a first direction to selectively perform at least one step in igniting the fuel; and
a latch member associated with the housing and movable along a second path
30 in a second direction from a first position where the actuating member is in a high-force mode to a second position where the actuating member is in a low-force mode;
wherein the first path is substantially parallel to the second path.

33. The lighter of claim 32, wherein the first direction is substantially different than the second direction.

5 34. The lighter of claim 32, wherein the first direction is substantially opposite the second direction.

35. The lighter of claim 32, wherein at least one of the first and second paths is substantially linear.

10 36. The lighter of claim 32, wherein at least one of the first and second paths is curved or arcuate.

15 37. The lighter of claim 32, wherein at least one of the first and second paths is angled or multi-axial.

38. The lighter of claim 32, wherein when the actuating member is in the high-force mode, a first actuating force is required to move the actuating member to perform the at least one step in igniting the fuel, and when the actuating member is in the low-force mode, a second actuating force is required to move the actuating member to perform the at
20 least one step in igniting the fuel, wherein the first actuating force is greater than the second actuating force.

25 39. The lighter of claim 38, wherein the first actuating force is less than about 10 kg.

40. The lighter of claim 32, wherein the latch member is slidable with respect to the housing.

30 41. The lighter of claim 40, wherein the latch member slides along a surface of the housing.

42. The lighter of claim 32, further comprising a cam follower for interaction with the latch member.

43. The lighter of claim 42, wherein the cam follower is pivotally associated with the housing.

44. The lighter of claim 42, further comprising a plunger member movable
5 between a first position where the actuator member is in the high-force mode and a second position where the actuator member is in the low-force mode, wherein the cam follower moves the plunger member from the first position to the second position.

45. The lighter of claim 32, wherein moving the actuating member a
10 predetermined distance before moving the latch member increases the amount of force necessary to slide the latch member.

46. The lighter of claim 45, further comprising a first engagement surface associated with the latch member and a second engagement surface associated with the
15 actuating member, wherein the first engagement surface engages the second engagement surface upon movement of the actuating member a predetermined distance before sliding the latch member.

47. The lighter of claim 46, further comprising a plunger member, wherein the
20 first engagement surface is formed on the plunger member and the second engagement surface is formed on the actuating member, wherein the first and second engagement surfaces are inclined.

48. The lighter of claim 32, wherein moving the actuating member a
25 predetermined distance before moving the latch member substantially prevents movement of the latch member a sufficient distance to change the actuating member from the high-force mode to the low-force mode.

49. The lighter of claim 48, further comprising a first engagement surface
30 associated with the latch member and a second engagement surface associated with the actuating member, wherein the first engagement surface engages the second engagement surface upon movement of the actuating member a predetermined distance before sliding the latch member.

50. The lighter of claim 49, further comprising a plunger member, wherein the first engagement surface is formed on the plunger member and the second engagement surface is formed on the actuating member, wherein the first and second engagement surfaces are substantially horizontal.

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51. The lighter of claim 49, further comprising a plunger member, wherein the first engagement surface is formed on the plunger member and the second engagement surface is formed on the actuating member, wherein the first and second engagement surfaces are substantially vertical.

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52. The lighter of claim 32, wherein the at least one step in igniting the fuel is releasing the fuel or creating a spark.

53. The lighter of claim 32, wherein the actuating member selectively releases the fuel and creates a spark.

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54. The lighter of claim 32, further comprising a wand extending from the housing.

55. The lighter of claim 52, wherein the wand is pivotable with respect to the housing.

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56. The lighter of claim 32, wherein the actuating member is configured to be operable by a user's index finger and the latch member is configured to be operable by a user's thumb.

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57. A lighter comprising:
a housing having a supply of fuel;
an actuating member movably associated with the housing to selectively ignite the fuel; and
a latch member associated with the housing for selectively changing the actuating member from a high-force mode to a low-force mode;
wherein the actuating member is movable along a first path in a first direction to perform at least one step in igniting the fuel, the latch member is movable along

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a second path in a second direction to change the actuating member from the high-force mode to the low-force mode, and the first direction is substantially opposite the second direction.

5 58. The lighter of claim 57, wherein the latch member is slidable along a surface of the housing.

 59. The lighter of claim 57, wherein the actuating member is configured to be operable by a user's index finger and the latch member is configured to be operable by a
10 user's thumb.

 60. The lighter of claim 57, wherein the first path is substantially parallel to the second path.

15 61. The lighter of claim 57, wherein the first path is transverse to the second path.

 62. The lighter of claim 57, wherein at least one of the first and second paths is substantially linear.
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 63. The lighter of claim 57, wherein at least one of the first and second paths is curved or arcuate.

 64. The lighter of claim 57, wherein at least one of the first and second paths is
25 angled or multi-axial.

 65. The lighter of claim 57, further comprising a cam follower, wherein the latch member includes a cam surface that interacts with the cam follower to change the actuating member from the high-force mode to the low-force mode.
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 66. The lighter of claim 65, further comprising a plunger member movable between a first position where the actuator member is in the high-force mode and a second position where the actuator member is in the low-force mode, wherein the cam follower moves the plunger member from the first position to the second position.

67. The lighter of claim 66, wherein the plunger is normally located in the first position and the latch member is normally located in an initial position, and moving the latch member a predetermined distance out of the initial position causes the cam follower to
5 move the plunger member to the second position.

68. The lighter of claim 57, wherein moving the actuating member a predetermined distance before moving the latch member increases the amount of force necessary to slide the latch member.

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69. The lighter of claim 57, wherein moving the actuating member a predetermined distance before moving the latch member substantially prevents movement of the latch member a sufficient distance to change the actuating member from the high-force mode to the low-force mode.

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70. The lighter of claim 57, wherein when the actuating member is in the high-force mode, a first actuating force is required to move the actuating member to perform the at least one step in igniting the fuel, and when the actuating member is in the low-force mode, a second actuating force is required to move the actuating member to perform the at
20 least one step in igniting the fuel, wherein the first actuating force is greater than the second actuating force.

71. The lighter of claim 70, wherein the first actuating force is less than about 10 kg.

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72. The lighter of claim 57, wherein the lighter is a utility lighter having a wand extending from the housing.

73. The lighter of claim 72, wherein the wand is pivotable with respect to the
30 housing.

74. A lighter comprising:
a housing having a supply of fuel;

an actuating member associated with the housing and movable along a first path to selectively perform at least one step in igniting the fuel; and

5 a latch member associated with the housing and movable along a second path from a first position where the actuating member is in a high-force mode to a second position where the actuating member is in a low-force mode;
wherein the first path is substantially parallel to the second path.

75. A lighter comprising:

10 a housing having a supply of fuel;

an actuating member movably associated with the housing to selectively perform at least one step in igniting the fuel; and

a latch member associated with the housing for selectively changing the actuating member from a high-force mode to a low-force mode;

15 wherein the actuating member is movable in a first direction to perform at least one step in igniting the fuel, the latch member is movable in a second direction to change the actuating member from the high-force mode to the low-force mode, and the first direction is substantially opposite the second direction.